

ABSTRACT OF THE DISCLOSURE

A process and apparatus is described for recovering from optical transmission degradation due to scintillation effects in optical free space. A payload bit stream is encoded into Reed-Solomon codewords. These are fragmented and distributed as interleaved segments over a cell matrix of a SDRAM buffer store which is made large enough to correct a burst error occurring over 20 million consecutive bits. The rate imbalance between conventional read vs. write operations for SDRAM devices, which would otherwise obviate their use in this application by preventing real time operation, is overcome by an address remapping that avoids having to changing page addresses each time SDRAM memory is referenced. The remapping facilitates a more nearly equal allocation of READ overhead and WRITE overhead. An optical communications system employs at both the transmit and receive ends, substantially equivalent SDRAM buffer with address remapping capability.